

The Chartered Surveyors' Institution

(Incorporated by Royal Charter),

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PATRON:

HIS MAJESTY KING GEORGE VI.

TRANSACTIONS

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SESSION 1938-39.



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Transactions *of* The Chartered Surveyors' Institution

SESSION 1938-1939.

FIRST ORDINARY GENERAL MEETING OF THE
SESSION 1938-39.

*Held at the Chartered Surveyors' Institution, Monday,
14th November, 1938.*

Sir CHARLES BRESSEY, C.B., C.B.E (President), in the Chair.

Prior to the meeting the PRESIDENT, on behalf of the members placed a wreath of Flanders poppies at the foot of the Memorial to the memory of the members, students and examinees who had fallen in the Great War, the members present standing at attention while " The Last Post " and " The Reveille " were sounded by a bugler of the 1st Battalion the Grenadier Guards.

NEW MEMBERS.

The following new members were received by the
PRESIDENT prior to the meeting and signed the Register:—

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The PRESIDENT then delivered the following opening Address:—

PAPER No. 585.

OPENING ADDRESS.

By Sir Charles Bressey, C.B., C.B.E. (President).

Seventy years have passed since this Institution was founded. This year, for the first time, a Civil Servant has been elected President. I am proud and grateful that the lot should have fallen to me, and that my name should figure on the long and honourable list of chartered surveyors who have had the privilege of occupying this Chair. Looking back over twenty years of work in the Ministry of Transport, I am happy to think that my relationship with professional men outside the Civil Service has been every whit as cordial, intimate and friendly as with my official colleagues. I have needed much indulgence from both quarters, and I can say, with all thankfulness, that it has never been denied me.

The old adage of the cobbler and his last applies with great force to presidential addresses. Although the President has to pose during his brief term of office as the figurehead of the profession as a whole, he knows, even better than his hearers do, how limited is the range of his experience and knowledge within the vast field of the profession's activities. If I devote most of my Address this evening to the subject of roads, it is because the greater part of my working life, civil and military, has been spent in that service. Moreover, the topic, however threadbare, is one that continues to stir public interest, and no surveyor is likely to belittle the influence exercised by roads and road-traffic upon the utilisation of land and the value of property.

ROAD ADMINISTRATION.

The present year marks an epoch in the history of British roads, inasmuch as the wheel of administration has now swung full circle after the lapse of fifteen centuries. During the Roman occupation, the principal British routes were constructed and maintained by the Government, as part of the Imperial system of administration. Some of these roads still figure among our best. Upon the withdrawal of the Roman legions, highway communications became a matter of local concern or of complete indifference. Now, under the Trunk Roads Act of 1936, the direct responsibility for the principal routes of the country, 4,500 miles in length, is once more assumed by the Central Government. Despite occasional denunciations of the inroads of bureaucracy, I have the impression that the public generally view this change with equanimity.

For various weighty reasons the scope of the Trunk Roads Act is limited in several important respects ; it excludes the County of London and all county boroughs, so that the thorny problems of road communications in the densest clusters of population are left unaffected. The Act is, moreover, so framed as to render it very difficult for an entirely new route like the North Orbital Road round London to be classed as a Trunk Road, although it may be potentially more important than many of the existing roads which are scheduled as Trunk Roads under the Act.

It is true, of course, that financial assistance from the Ministry of Transport is usually forthcoming towards the cost of major road improvements in and around our great urban agglomerations, but the task of securing combined action on agreed terms among large numbers of highway authorities is usually very protracted and sometimes impossible. The benefit to the wider region may be admitted, but the profit to the individual authority is disputed. It is always easier to appeal to local patriotism than to local altruism.

As an instance of successful co-operation, one might quote the Birmingham-Wolverhampton road, $9\frac{3}{4}$ miles in length

(opened ten years ago), which involved the co-operation of nine local authorities. As an example of failure I could quote a new road only four miles long which has been advocated for more than twenty years past. It lies on the outskirts of London, and the authorities concerned include two county councils and three borough councils who have never yet been able to reach agreement. From these illustrations one might infer that the chances of successfully promoting a road-scheme are at a low ebb when the number of councils affected exceeds the number of miles in the road. The dominant factor in deciding the fate of such projects has often been, not so much the merits of any particular scheme from a traffic standpoint, as its capacity for promptly relieving unemployment. Progress has thus been precarious and unsystematic.

GREATER LONDON.

In the hope of focussing attention on what one may term the regional needs of Greater London in the matter of highway communications, regardless of the jigsaw of administrative boundaries, the Minister of Transport ordered a Highway Development Survey to be prepared for an area contained within a circle of twenty-five miles radius from Charing Cross, and this Survey and Report, which has occupied much of my time for three years past, in collaboration with Sir Edwin Lutyens, was published in May last. The population of the area is about $9\frac{1}{2}$ millions ; control is exercised by upwards of 150 local authorities, varying very widely in wealth, population and resources. If the population is bound to increase, one hopes that there may be no addition to the host of authorities.

The spread of London may be illustrated by the following figures: In the year 1800 the built-up area could be contained within a circle of about two miles radius ; in 1850 the radius had increased to about four miles, whereas to-day a circle of ten miles radius cuts through typical suburban areas such as Enfield, Barking, Surbiton and Harrow ; the London Traffic Area is comprised within the

circle of twenty-five miles radius to which the Highway Development Report relates.

The most prominent feature on the road-map of Greater London is the arterial road system, nearly 300 miles in length, which has been created since the War, but which at no point approaches nearer than $4\frac{1}{2}$ miles to Charing Cross. It represents a notable achievement of incalculable value, but its reactions on the older traffic channels are formidable.

In order to form some conception of the strain imposed on Inner London by the traffic tides surging along these great arterial roads of Outer London, which point towards the almost unchanged core of the Metropolis, let us draw a circle of ten miles radius from Charing Cross and count the post-war arterial roads cut by that circle, leaving out of account the older radial highways, however much they may have been widened. We will work clockwise around the map starting with—

1. The New Cambridge Road, which strikes due north.
2. Eastern Avenue.
3. East Ham and Barking By-pass.
4. Shooters Hill By-pass.
5. Eltham By-pass.
6. Croydon By-pass.
7. Sutton By-pass.
8. Kingston By-pass.
9. New Chertsey road.
10. Great West Road.
11. Western Avenue.
12. Watford By-pass.
13. Barnet By-pass.

The aggregate width of these thirteen new highways, where cut by the ten-mile circle, is little short of 1,400 feet. Eventually there will be accommodation for about 52 lanes of moving vehicles, besides space for service-roads and cycle-tracks. According to a week's traffic census taken in

1935, the aggregate daily volume of traffic recorded on these thirteen roads at the census points nearest to the ten-mile circle was 115,925 vehicles and 33,682 cyclists (6 a.m. to 10 p.m.). We must expect these figures to be greatly increased when the Western Avenue and the New Chertsey Road are extended to their ultimate destinations—a consummation greatly to be desired.

Statistics of this kind enable a mental picture to be traced of the startling transformation which has occurred during the past twenty years in Outer London—ten miles from Charing Cross—though many of us believe that even at that distance from the centre much remains to be done to improve communications. A companion picture of Inner London, however, within a two-mile radius of Charing Cross, would display no improvement of outstanding magnitude that has been executed since Kingsway and Aldwych were opened in 1905, in the early dawn of the motor-epoch.

TRAFFIC INCREASES.

In considering the traffic figures quoted above, relative to the post-war arterial roads, it must be remembered that on the older radial roads traffic continues to increase without a check, despite the advantages offered by the new parallel routes. Thus on the old Cambridge road (A. 10) the volume of traffic recorded at a point in Enfield increased by 55 per cent. between the years 1928 and 1935. Concurrently, on the parallel New Cambridge Road (A. 108), which was only opened in 1924, the traffic increased by 123 per cent. during the same period, at the end of which the new road was carrying seven vehicles for every four passing along the old one. Similarly, traffic censuses on the roads leading to Southend show that on the old road (A. 13) the aggregate number of vehicles recorded at three points was 76 per cent. higher in 1935 than in 1928. At three corresponding points on the new parallel road (A. 127), which was opened in 1925, the comparable increase was 100 per cent. in the same period, at the end

of which the new road was carrying nearly twice as much traffic as the old.

No doubt the new arterial roads themselves create a substantial proportion of the traffic they carry, by stimulating, as railways have done, the industrial, commercial and residential growth of the areas traversed. But even allowing for this consideration, one is surprised to observe how rapidly the rising tide of traffic floods any additional channels that may be provided by roadmakers. Fortunately, many of the new arterial roads were so designed as to allow for traffic expansion, space having been left for a second carriageway, which has almost invariably proved to be necessary. In the light of subsequent experience it is to be regretted that this type of design was not standardised for arterial roads throughout Greater London, but the advantages of twin carriageways did not secure unanimous or immediate recognition.

One must also regret that some short-sighted authorities have allowed buildings to advance beyond the very modest building lines prescribed when the arterial roads were laid out. The excuse is usually made that where domestic buildings are being converted into shops, it is indispensable that the fronts should be advanced. It would be more rational to insist that the entire forecourt space should be reserved for the service-roads which a successful group of shops will ultimately require.

RAILWAYS AND ROADS.

It may be asked whether the electrification of suburban railways will not inevitably tend to deflect traffic from roads, and so remove the need for heavy expenditure upon the improvement of existing highway communications. The electrification of the Brighton Railway enables us to put this theory to the test of practice. The electrified line was opened in January, 1933, and the train service is generally recognised to be beyond praise. Yet the traffic censuses taken on A. 23 (the London-Brighton Road) in 1928 and 1935 respectively, *i.e.*, before and after the electrification,

INNER LONDON REPLANNED



KEY

1. East-West Connection.
2. South Circular Road.
3. City Loopway.
4. Aldgate By-Pass and Cable Street widening.
5. City Outer Circle.
6. Old Street By-Pass.
10. Blackwall Tunnel Duplication and Improvement of North and South Approaches.
11. Rotherhithe Tunnel Duplication and connection to South Circular Road.
12. Cramwell Road Extension.
13. South Kensington - Horseferry Road.
14. Mayfair - Soho Route (Oxford Street Relief)
15. Mayfair North and South Route (Bond Street Relief)
16. Piccadilly Circus Improvement.
17. Hyde Park Corner Layout.
18. Kensington Gardens Tunnel.
19. Wandsworth Bridge Road Extension to Watford By-Pass.
20. Chelsea Embankment Extension to Putney Bridge
21. Elevated Road, Blackfriars-Brixton and Extension to South Circular Road.
22. Blackfriars - Kings Cross - Holloway
23. Albert Embankment - Camberwell New Road.
24. Battersea Bridge South Approach Extension to South Circular Road and to Victoria - Croydon - Coulsdon Route.
25. Victoria - Croydon - Coulsdon Route.
26. South-Eastern Outlet with spurs to Shirley and Dartford Tunnel Approach.
27. New Kent Road - Catford via Brockley Footpath.
28. Shooters Hill By-Pass Extension (New Cross Relief Route.)
29. Link between Kingston By-Pass and South Circular Road.
30. Colliers Wood - Streatham.
31. Lambeth Bridge - St. George's Circus - London Bridge
32. London Bridge - Rotherhithe.
33. Bromley By-Pass.
34. North-South Road (Lea Valley).
35. Lea Bridge Road Extension to Essex Road.
36. London Docks to Stamford Hill.
37. New Cambridge Road Extension to Newington Green.
38. Woolwich Ferry (Northern Approach) and River Crossing - Woolwich.
39. West India Dock Road Extension to Stamford Hill.
48. Harrow Road improvement, - Edgware Road to Sudbury.
52. Northern Outlet. Swiss Cottage - Spaniards Road.

RECOMMENDED ROUTES.

TUNNELS...

VIADUCTS

CHARTERED SURVEYORS' INSTITUTION

PRESIDENTIAL ADDRESS

14TH NOVEMBER
1938

SIR CHARLES BRESSEY, C.B., P.S.I.

disclose an increase of 37 per cent. in the number of vehicles using this road, which parallels the railway line. This figure represents the average of six census points on the road, each one of which incidentally shows an increase. Even more remarkable figures emerge from the traffic census on the Class II. road, B. 2036, which forms an alternative route to Brighton through Balcombe and Cuckfield. Here we have for comparison the counts taken at seven identical points in 1929 and 1936 respectively. In this intercensal period of seven years the average rate of increase was no less than 109 per cent. This very sharp rise on a Class II. highway may perhaps be construed as evidence of a wider dissemination of map-sense among motorists, leading them to seek out the quieter and less obvious itineraries.

The foregoing figures would appear to demolish any supposition that improved railway communications in the suburbs will relieve the strain on roads. On the contrary, railway extensions are apt to open up fresh fields for building enterprise and to stimulate the erection of houses, an increasingly large proportion of which will be inhabited by citizens owning motor cars. The erection of 10,000 houses in Hendon between the years 1906 and 1926 is mainly attributable to tube extensions, but the road traffic censuses show that the residents in the neighbourhood use the roads even more freely than the railways.

INNER LONDON.

Travellers approaching London along the new arterial roads, 100 feet or more in width, cannot fail to be impressed by the absence of any corresponding thoroughfares when the circle of five-miles radius of Charing Cross is entered. The Western Avenue terminates in Wood Lane, 50-60 feet wide ; the Eastern Avenue discharges into Leytonstone High Street, 49 feet wide ; the Watford By-pass leads into Finchley Road, 55 feet wide ; the Kingston By-pass into the Portsmouth Road, 51 feet wide. The nearer one

approaches to the centre, the greater does the disparity become between the scale of roads in Outer and Inner London respectively. Moreover, the cramped space in Inner London is largely obstructed by shopping centres. Not merely are the roads of Inner London lacking in width but also in directness for purposes of through communications. It is no easy matter to pick one's way north-eastwards across London for a distance of twelve miles from the Western Avenue in Hammersmith to the Eastern Avenue in Leyton ; or south-eastwards from the Watford By-pass in Hampstead to the Eltham By-pass in Lewisham—again a distance of twelve miles.

It is remarkable that in some stages of London's development so little attention was bestowed upon road communications. In the area between Maida Vale and Hammersmith and in the district lying south-east of Broadway, West Ham, the utterly devious alignment of the principal roads perpetuates the course of ancient tracks connecting long vanished farms and hamlets. As other illustrations of want of foresight, one might instance the Surrey Commercial Docks, of which the quays measure nearly nine miles in length and which are entirely served by narrow roads, best described as tortuous lanes. The same remark applies to the London and St. Katharine Docks with four miles of quays. This group of docks is bounded by jagged narrow thoroughfares like Upper East Smithfield, barely thirty feet wide. The pressure of traffic upon the centre of the City is common to most capitals, but the City of London is peculiarly unfortunate in the lack of space round its principal buildings, *e.g.*, the Stock Exchange, the Mansion House, the Customs House, Liverpool Street Station, Billingsgate Market, &c. The buildings would appear to have been designed by Brobdingnagians and the streets by Lilliputians. It may be said that, by the Paris standard, hardly any public edifice in the City has a spacious setting. Contrast, for instance, Liverpool Street Station, London, with the Gare de l'Est, Paris. The former is flanked by two streets sixty or seventy feet wide (Bishopsgate street and Liverpool

street) and has no forecourt unless one counts the steep and narrow slopes which lead down from the streets to platform level. The Gare de l'Est, on the other hand, stands behind a roomy forecourt at the apex of two great boulevards, the Boulevard de Strasbourg and the Boulevard Magenta. Similar contrasts could be multiplied.

A substantial measure of relief is afforded in old fortified towns like Paris, Brussels, Vienna and Copenhagen by the presence of ring roads or boulevards which mark the lines of former defences and serve to deflect traffic from the crowded central thoroughfares. No one acquainted with these foreign cities will underestimate the valuable part played by the boulevards not only in diverting traffic from the centre to the periphery, but also in providing an easily accessible promenade and an imposing setting for public buildings. The failure of the City of London to preserve a boulevard along the line of the ancient wall was deplored by John Stow in his Survey of London more than three centuries ago, when he records that the ditch, formerly 200 feet broad, was, in his day, being covered with buildings up to the very wall—"to what danger to the City I leave to wiser consideration." To-day we can assess with even fuller knowledge, the mischief wrought by the Londoner's insatiable craving for bricks and mortar. There is nothing that the City needs more in this twentieth century than a boulevard along the line of the ancient wall, even if a width of 200 feet is now beyond hoping for.

The recommendations made in the Highway Development Survey Report fall into several categories which I will now review, not exhaustively but in broad outline.

COMPLETION OF UNFINISHED SCHEMES.

To obtain a due return on capital already sunk, it is obviously desirable to put the finishing touches to schemes which have been left incomplete. Thus the Western Avenue needs to be extended across the Colne Valley to its destination on the London-Oxford Road near Denham. The New Chertsey Road, which has now reached Hanworth, should

be continued south-westwards to Addlestone. The South Circular Road, which at present only exists in Woolwich and Lewisham, needs extending to Wandsworth Bridge. The North Orbital Road, which has barely been begun, should be carried round Outer London from Purfleet in Essex to Egham in Surrey. On various arterial roads, *e.g.*, the North Circular Road, there are "bottle-necks" where old streets and bridges have been absorbed into the route. The requisite widenings should be taken in hand. Along several stretches of route where a single carriageway only was formed, in the first instance, the growth of traffic now calls for the construction of the second carriageway, for which provision was made when land was originally acquired for the route.

CONNECTIONS ACROSS LONDON.

The Eastern Avenue now loses itself, at its London end, in Leyton, while the Western Avenue ends abruptly in Wood Lane, Hammersmith. By driving a wide avenue across Hackney, Shoreditch and Marylebone to connect these two arterial roads, now separated by a gap of twelve miles, a new and unobstructed thoroughfare would be formed, relieving the ever-growing pressure on the Holborn-Oxford street line of route. Buckinghamshire and Essex would be joined by a thoroughfare 100 feet or more in width, and the long-standing prayer for an additional east-west artery across London would at last be granted. What an opportunity, moreover, for replanning and rejuvenating some of the drab and dejected quarters which do so little credit to London! (Viscount Samuel, speaking in the House of Lords in June of this year, remarked: "Whenever we return from abroad, and view London with a fresh eye, we cannot but feel impressed by the meanness of great parts of it, the squalor of others, and the disgraceful congestion of the surface traffic which amounts to a scandal.")

To provide somewhat similar facilities for north-south traffic, the proposal is put forward that a new route should

be formed extending from Holloway southwards to Blackfriars Bridge and proceeding by means of a viaduct across South London to Brixton and Herne Hill. Drivers would thus be delivered from the confusion, congestion and delay that prevail in the "Elephant and Castle" neighbourhood, from which seven London bridges radiate like spokes from a hub. Speaking of viaducts, it is hardly necessary to say that no one would now contemplate the erection of the ponderous and unsightly structures faced with gloomy bricks, which have created a prejudice against viaducts in many cities. It would be a great advantage if several of the existing arterial roads on the outskirts of London could be thrust inwards to points nearer the centre. A leading case in point is the New Great West Road, which it has now been arranged to extend eastwards for four miles through Chiswick and Hammersmith to join the Cromwell Road. Part of this extension will also be common to the New Chertsey Road, which will thus gain an improved outlet at its London end. Similarly, the New Cambridge Road should be extended southwards from Tottenham to Newington Green.

RING ROADS.

The North Orbital and South Orbital Roads are designed to form London's outermost ring, measuring about 125 miles in total length, and crossing the Thames at a new Egham Bridge in the west and through the Lower Thames Tunnel in the east. In the north it would skirt Hatfield and in the south Redhill. Much of the scenery traversed is memorably beautiful, and should be carefully preserved. London will never have a finer opportunity of creating a noble parkway worthy of the Imperial Capital. Every effort should be made to associate the new route with the Green Belt. Where they do not coincide, glades might be formed, opening up a view of the Belt from the Orbital Roads.

Proceeding inwards, the next ring consists of the North

Circular and South Circular Roads, the former already used for its entire length, though not complete in all respects, the latter only constructed for a short distance at its eastern end. Observations taken over an entire week demonstrate that a driver can reckon on spending less time in making this northern circuit of 22·75 miles, than in laboriously threading his way directly through the heart of London, 12·6 miles. The advantage of the circular route will be increased when its remaining bottle-necks have been removed. In one sense the South Circular Road would exceed the North Circular Road in usefulness, for it lies nearer the centre, and would therefore give more immediate relief to the most densely congested areas. Moreover, few districts stand more in need of intelligible transverse communications than South London.

The rebuilding of Wandsworth Bridge and the improved southern approach thereto (now in preparation), will add greatly to the attractions of the South Circular Road which leads to this bridge. When, at some future date, Woolwich Ferry at the east end of the South Circular Road is superseded by a tunnel, the advantages of this ring road will be immeasurably enhanced.

The innermost ring included among my recommendations is the Loopway round the City, so designed as to enable drivers to avoid the incessant hold-ups at focal points, such as the Mansion House and the junction of Cannon street and Queen Victoria street. The carriageway which separates the Mansion House from the National Provincial Bank measures only 41 feet in width. Into this bottle-neck there converge from the west Cheapside (32-foot carriageway) and Queen Victoria street (43-foot carriageway). East-bound drivers along these two roads, as they pass through this narrow slot at the Mansion House, have to contend not only with west-bound traffic but also with the large volume of north-south traffic flowing along Princes street and King William street. The all-important east-west transit through the City past the Mansion House proved to be the slowest stretch of any route on which

I investigated traffic delays ; the average speed of a number of journeys was 5.85 miles per hour, and on the slowest journey recorded, the figure fell to 3.6 miles per hour. It is not impossible, of course, for a supremely gifted traveller to " tack " round the City by a bewildering series of zigzags, but such a venture would be foolhardy on the part of the average motorist, who needs an unmis-takeable route such as would be afforded by the Loopway recommended in my Report.

The most important section of the Loopway would form an eastward extension of the Victoria Embankment from Blackfriars to the Tower, whence the circuit would be continued round the City via London Wall, Bartholomew Close and Farringdon street, to mention a few landmarks along the route. By the formation of the Loopway and the replanning of some of the adjacent areas, which do little credit to the City, attractive views would be disclosed of interesting old buildings which are now completely hemmed in by mean tenements.

BY-PASSES.

By-passes, in the ordinary acceptation of the word, namely, a short loop to avoid a purely local obstacle, do not figure largely in the Report, which aims generally at bolder remedies of a more fundamental type. Thus, to relieve the congestion in New Cross road a recommendation is made that the existing Shooters Hill By-pass should be extended westwards for four miles to Peckham, where it would join another new route leading towards Southwark. By this means relief would be afforded not only to the New Cross road but to other heavily burdened streets in South London. Instead of proposing a purely local remedy for the incessant congestion at Gardiner's Corner, Aldgate, I have preferred to recommend a new route leading from Whitechapel into the replanned Tower area, where it would join the southern limb of the City Loopway, and so give access to the Embankment route extending from the Tower to Putney.

APPROACHES TO TUNNELS AND BRIDGES.

If the report contains no recommendation in favour of the Charing Cross Bridge, it stresses the need for improved means of access to other less central river crossings, which deserve to be more fully utilised so as to relieve the unnecessary congestion that prevails in many parts of Inner London. It is only too frequently noticeable that the existing approaches are of such short range that drivers from a distance are discouraged.

Now that the Blackwall Tunnel is to be duplicated, a readily recognisable road should be formed linking it with the East-West Connection (Eastern Avenue to Western Avenue) in the north and with the South Circular Road in the opposite direction. When the Rotherhithe Tunnel is duplicated, as it soon must be, the approaches should extend uninterruptedly and unmistakably from the South Circular Road to Stamford Hill. The Woolwich Ferry should eventually be superseded by a tunnel with lengthy and simple approaches from the north (on the south, satisfactory access will be afforded by the South Circular Road). Wandsworth Bridge, which is now being rebuilt, will have an adequate southern approach from the South Circular Road, but on the north side of the river the access through Fulham is devious and narrow. By the adoption of the recommendation made in the report, a route would be created placing Wandsworth Bridge in direct communication with Kensington, Willesden and Hampstead. Battersea Bridge, when widened, should be made part of a somewhat similar route extending from the Streatham district in the south to a point on the East-West Connection in Marylebone. As part of this scheme a tunnel would be driven under Kensington road, Kensington Gardens and the Bayswater road, so that north-south traffic would be spared the delay created by any attempts to cross the two principal streams of east-west traffic in London. Incidentally, such a tunnel would do much to promote the quietude of Kensington Gardens for many years to come.

Lambeth Bridge is hampered by particularly awkward

approaches from the Victoria neighbourhood. Horseferry road, into which the bridge directly discharges, only extends for a quarter of a mile and then loses itself in a tangle of small streets. Horseferry road needs extending westwards to South Kensington, by-passing Victoria on the way. Further value would be conferred upon Lambeth Bridge if a spacious thoroughfare were opened out across South London from Lambeth to London Bridge—potentially the shortest route from the City to Westminster. This improvement should be coupled with the drastic remodelling of the shapeless area round London Bridge Station.

Two other river crossings may be mentioned, namely, the Lower Thames Tunnel at Dartford and the proposed new bridge at Egham. Fortunately these will be amply served by the North and South Orbital Roads in which they form indispensable links.

A glance at the plan illustrating this address will, I hope, disclose the advantage presented by a series of deflecting roads and ring routes as the principal cure for London's traffic disease, in preference to the prescription of more obvious local palliatives which would, I fear, only result in drawing additional traffic into the most congested central areas.

LONDON'S DOCK AREAS.

London's dock areas are, as already mentioned, generally lacking in suitable road access, and several of the recommendations made in the report are intended to remedy this defect, as, for instance, the suggested road leading from the London Docks northwards to Stoke Newington. This would parallel and relieve the Bishopsgate-Shoreditch Road and would thus help to keep traffic out of some of the most densely crowded quarters. Another new route serving a similar purpose would extend from the West India Docks northwards to Stamford Hill, thus again offering drivers an inducement to keep clear of the City. For the benefit of the most imposing group of docks in London (Victoria and

Albert and King George V.), it is proposed that a new route should be carried northwards from Silvertown through parts of West Ham, Leyton and Walthamstow, which are fully ripe for replanning. Industrial developments in these areas render it imperative that better road communications should be established up the Lea Valley, and the route I have just described has been designed with that end in view. It would pass up the Lea Valley, skirting the Metropolitan Water Board's reservoirs, and intersect the North Orbital Road near Hoddesdon in Hertfordshire. At a later stage I should hope that this Lea Valley route might again be extended still further north to join the London-Newmarket Road near Great Chesterford, thus providing London with a new outlet in a northerly direction.

EMBANKMENTS.

The Thames Embankments deserve special mention, not merely because of the pleasure they afford as a promenade, but also because of their outstanding advantages from a traffic standpoint, inasmuch as the presence of the river along one flank relieves the route from intersecting streets and frontage development. The Victoria Embankment, which now terminates in the east at Blackfriars, would be extended to the Tower if the City Loopway scheme, which I have already described, were carried out. From the Tower a new route would be opened out into Whitechapel at a point east of Gardiner's Corner, where incessant congestion now prevails. Traffic that now blocks the approaches to the Mansion House would be deflected to the riverside route.

Turning to the opposite point of the compass, the Chelsea Embankment should be widened and continued to Putney Bridge. Thanks to these two embankment extensions London would be able to boast of the priceless advantage of a riverside promenade stretching for nearly eight miles from Putney to the Tower.

MOTORWAYS.

Motorways which figure prominently on some foreign road maps have not yet been acclimatised here. Similarly, some forty years ago, we gave a very reluctant welcome to the motor-car, curbing its advances with a red flag. Admittedly, our circumstances differ widely from those of Germany, where the population being sparser than in England, more space is available for new roads. Our country, moreover, is fortunate in being already fairly provided with a well-maintained network of roads, devious though they may sometimes be. If our public highways were evenly distributed over the map instead of being largely massed in urban neighbourhoods, England could be ruled checker-fashion into three-quarter-mile squares, each side of every square being bounded by a road. A very small proportion, however, of this huge road mileage can be said to have undergone a development corresponding in any way to the advance in motor-car design, as evidenced by the road tests of new motor-cars reported from time to time in the English press. Here is an instance taken at random: "The maximum speed attained during our test was 95 miles per hour with a slight following wind, the normal maximum being over 90 miles per hour." Vehicles of this calibre share the King's highway with cyclists, lorries, driven cattle, the pony-chaise and the hay-wain. True, the use of horse-drawn vehicles is rapidly dwindling, but even if the horse were entirely eliminated, the variety of traffic would still be sufficient to tax the resources of any genius who was expected to design a highway adapted to fulfil safely such widely differing needs. On all these grounds it seems desirable that unbiased consideration should be given to the problem of motor-ways, presumably toll free, and my report suggests that if such an investigation is undertaken, it might be directed to five routes, the general direction of which may be described as follows, namely, London-Birmingham, London-Grantham, London-Winchester, London-Norwich, and London-Brighton. Conceivably it might thus be found

cheaper to break fresh ground with an entirely new road through open territory, half-way between two existing main roads, than to attempt to apply to the latter a drastic process of modernisation which would be hampered by all the time-honoured associations clustering along an ancient highway.

In addition to the five motorways just mentioned, attention is called to the need for new outlets from London in various directions, *e.g.*, the Harrow road to be completely remodelled and extended north-westwards past Watford and Tring ; a new south-eastern outlet passing, in tunnel, under the Crystal Palace ridge and proceeding to West-
ham and Eastbourne ; an improved route—Victoria-Croydon-Coulsdon—whereby, incidentally, the road access to the Croydon Aerodrome would be greatly accelerated.

ESSENTIAL LOCAL IMPROVEMENTS.

Reference may here be made to a few isolated improvements intended to facilitate traffic flow in the busiest parts of London. The replanning of Hyde Park Corner as a monumental piazza of regular shape, so designed by Sir Edwin Lutyens as to afford a noble site for national memorials ; the enlargement and reshaping of Piccadilly Circus ; a new Mayfair-Soho route, largely in tunnel ; this route would discharge, at one end, into Park Lane, which would be converted into a spacious twin-carriageway road by adding to the public highway the drive that now lies within the park railings ; a Bond street relief route is also recommended in the West End and an Old Street By-pass in the East End.

ADMINISTRATIVE MACHINERY.

It is interesting to consider whether the minutely subdivided highway administration of Greater London, as at present constituted, is suited to the carrying-out of a programme of the magnitude and complexity envisaged in the Report, which, by the way, includes many recommendations that would figure in any document of this kind, whoever

the author might be. Is it to be expected that the complex administrative machine of Greater London, designed primarily for the maintenance of roads in comparatively restricted areas with jagged boundaries, can be successfully adapted to the task of constructing entirely new highways some hundreds of miles in length, located with no regard whatever to county or borough boundaries? Can any substantial progress be made without the setting up of a simpler, more direct, *ad hoc* organisation, immune from the vexatious delays that must always attach to the deliberations of heterogeneous groups of local bodies, with their committees, sub-committees, references to various Government Departments, &c.?

The delays and uncertainties inherent in this procedure are apt to lead, not merely to increased outlay, but also to a grave loss of efficiency, owing to the direct course of a new road as originally designed having been thwarted by obstructive developments.

As one glances at the map of this teeming area, with its multitudinous authorities and conflicting interests, one suspects that any report formulated on a broad regional basis is likely at best to meet with approval in general and rejection in detail, everyone agreeing that comprehensive measures are essential, but no public body being prepared to take the initiative, or to accept any scheme that appears of doubtful benefit to its particular locality, however small. The allocation of cost is sure to be a bone of contention, and haggling will be protracted; private initiative will, however, proceed without a check, building estates will be cut up, values will rise, and obstructions be created. In many areas on the outskirts of London, estate development has reached a stage at which the last available "corridors" for new routes will soon be closed by streets and buildings.

Nothing is more calculated to bring public administration into contempt than the spectacle of newly erected buildings being demolished to make way for a road, the need for which had been or could have been foreseen. If valid arguments can be advanced against the actual building of roads

in present circumstances, no objection can surely be taken to the safeguarding of their course, so that, in the event of a trade-recession, profitable scope may at once be available for public works.

Nearly thirty years ago, when the Development and Road Improvement Funds Act, 1909, was passed, misgivings were evidently felt as to the possibility of applying the normal machinery of local government to the creation of new routes, and the Road Board of five members, established under that Act, was accordingly empowered itself "to construct and maintain any new roads." No advantage was taken of these powers either by the Road Board or by its successor, the Ministry of Transport. The policy of making grants to local authorities and leaving the control in their hands has been sedulously maintained in the letter, if not in the spirit, the grants from the Government's Road Fund having, in certain instances, approached the 100 per cent. mark.

TASK OF THE FUTURE.

What has now to be faced is not merely the cutting of new routes, but the replanning to the public advantage of the areas lying within what I may term the "zone of influence" of each route. Such duties could probably be most suitably performed by an Improvement Trust with few members but with ample powers to undertake the safeguarding and construction of new routes, and the acquisition of adjoining territory, with a view to securing recoupment by redevelopment on the most enlightened principles. I can imagine no loftier purpose to which the efforts of chartered surveyors could be directed than that of helping forward the broad measures of rehabilitation and salvage which this task of replanning involves.

DISCUSSION.

Mr. ROBERT COBB (Past-President) said it was a little ironical that a rural President as he was last year should have to propose a vote of thanks to the "rush and roar of traffic" President of the present year. Some of those present might remember that last year he had been pictured by Sir Charles as a rural President, with a bag full of wheat samples, a gun over his shoulder and a dog at his side. Since that time the great Bressey Report had been published, and all were proud of being associated with the author. He would not enter into the details of the Bressey Report, but what a change of scenery it suggested! The wheat samples were of no further use because the wheat fields had been appropriated for other uses. The guns were no good because there was no game, and in the rush and roar of traffic the dog had been run over. He believed that Sir Charles had gone further and had said that the boots of this countryman were muddy and his clothes were stained; but even that had been transformed by the concrete roads described in the Report. Such was the change of scenery between the Presidential Address of last year and that of to-day.

He knew that a Presidential Address was not to be criticised. He was rather sorry for that, because his own knowledge of London was rather like that of the old lady on the 'bus who asked the conductor to tell her when they got to Charing Cross. But she left the 'bus at the "Elephant and Castle," and when the conductor pointed out to her that that was not Charing Cross, she replied "This is what I call Charing Cross." That was like his own knowledge of London. If he were asked to devise a route from Ealing to the Docks or from Blackheath into Hertfordshire he would disagree with Sir Charles Bressey as to the method he adopted; he would go by tube.

While he would leave to Mr. Healing references to the details of Sir Charles's address, there were three general points to which he desired to refer. The first was that they did welcome Sir Charles most heartily as the first civil servant for seventy years to be, if he might call it so, promoted to the Chair of the Institution. Whether Sir Charles was a servant of the Civil Service or a master of the Civil Service he was not quite sure, but the Institution for years had been asked for advice by, and he hoped had given help to, the Civil Service, and the Civil Service also

in its turn had been of great advantage and help to the surveyors' profession. They were glad to see the two bodies in a sense welded together in the President, and he believed that both could be of great help to the nation at large.

The second thing he wished to mention was Sir Charles's reference to getting rid of—to use his own word and not Sir Charles's—parochialism. If not only the road survey in this country had been studied without the petty interference of local individuals and authorities but town planning had gone on the same principle, England would be a great deal better off.

In this regard he wished to draw attention to Mr. Christopher Turner's delightful little article on land drainage and reclamation in Italy. There it was brought out that the great defect of the legislation was that the schemes were devised piecemeal with a lack of co-ordination, and thus the object was not attained. That was what might happen to planning in this country.

The President had referred to the fact that the present year marked an epoch in the history of British roads inasmuch as the wheel of administration had, after the lapse of fifteen centuries, achieved its full cycle. In other words, the cycle had extended from the days of Claudius Cæsar and Nero to the advent of Sir Charles Bressey. It was possible to-day, going over the ways which the Romans trod, to discover various remnants of their work, pieces of old paving, and other things of interest which were picked up, and he had no doubt that in 1,500 years' time the people then living would come upon a piece of reinforced concrete, an old viaduct or two, and, asking who had put them there, would be told that it was Sir Charles Bressey. Someone would then recall that he wrote a report on the subject, and they would suggest that the British Museum be searched and the report acted upon!

In proposing the vote of thanks, he wished to say that he did so with the greatest pleasure. He thanked Sir Charles not only for the work he had done on behalf of the Institution, but for his work for the nation at large. Whether during his year of office he travelled upon the lofty viaducts of annual dinners and dances, or through the gloomy tunnels of annual general meetings, or stuck to the highways of friendship which radiated from headquarters, they all hoped that he would end one day in the car park of happy memories of a wonderful year.

Mr. OSWALD HEALING (Senior Vice-President), in seconding, said that by long custom the duty of proposing the vote of thanks devolved on the immediate Past-President. Presumably that rule,

made many years ago, was framed in order to secure a true apostolical succession between the pious founders of the Institution and their successors of to-day. Whether this was the true reason or not for the selection of the outgoing President to move the vote of thanks, they were in no sort of doubt on that occasion that the present holder of the office could be trusted to carry out the great traditions of his forerunners whose names appeared on the panel behind the Presidential Chair.

Sir Charles Bressey had referred in his introduction to the fact that he was the first civil servant to become President of the Institution. Having regard to the great number of surveyors employed in civil appointments under national and local government, it was only fitting and appropriate that this long-standing omission should be remedied, and the Institution was indeed fortunate that this branch of its membership should be first represented in the person of Sir Charles.

There was a special fitness in Sir Charles's selection for the chair of the Institution for the year immediately following his completion of the great task entrusted to him by the Minister of Transport to report upon the need for improved communications by road in and around London, having regard to the present and future requirements of traffic. One was reminded of the recommendations which Sir Christopher Wren put forward for the re-planning of London after the Great Fire. Unfortunately his vision of the probable requirements of the future was not sympathetically received by his contemporaries, with the result that many of the troubles of to-day could be traced to this want of appreciation of the opportunities which the devastation wrought by the fire afforded.

On such an occasion as this, comment on the details of Sir Charles's great scheme would be out of place. He might perhaps be permitted to refer in general terms to what he was sure would be regarded as the general opinion of all members of the Institution as well as the great body of the general public.

First in this list of characteristics he would place the evidence it afforded of the President's appreciation of the requirements of the future. Too often in the past, improvements had been merely sporadic and directed to the removal of certain obvious local disabilities, but had not been related to any general scheme for improvement of the whole London area. In the case of such an important problem as the flow of traffic in and around London, the homœopathic treatment could never hope to be successful. The solution of the problem could only come through pre-vision of the possible requirements of the future.

Another quality which he found in the Address, using it as the

finger-post of the scheme as a whole, was that of imagination. If the reformer's vision was only utilitarian, then the result could hardly be worthy of this great city. Utilitarian considerations, of course, came first, but the amenities—social, artistic and æsthetic—should also be kept in view. It was therefore especially encouraging to see that the President drew attention to the opportunities which the new ring roads would afford of creating a noble park-way round London worthy of the imperial capital, and to the efforts which should be made to associate this new route with the green belt. Again, in the new roads which Sir Charles recommended should be cut through existing built-up areas, no opportunity should be neglected of opening up views of interesting old buildings which were at present completely hemmed in by mean tenements.

If he might respectfully say so, an outstanding feature of the Bressey Report was its courage. As a people they were rather resentful of innovation, but the recommendations of the Report, both in the lines to be followed by some of the new routes and the methods to be adopted in constructing them, struck one as original and likely to introduce quite new elements in the physiognomy and general appearance of the London streets. The devious alignment of some of the principal thoroughfares, while having its historical origin in the trackways of the past, could no longer be permitted to influence modern development. It was interesting to note that the Report recommended the use of viaducts and tunnels in certain places to overcome local difficulties in regard to levels, and in one case at any rate to avoid cutting a road across an existing park. Having regard to their inbred conservatism in road construction, as in much else, those proposals seemed to him evidence of their author's courage.

Finally he drew attention to what he might describe as the practicability of the scheme. The simple drawing of straight lines upon the map of London as the route to be followed by new highways, while possessing the merit of simplicity, could not possibly have been regarded as a practicable approach to the solution of the traffic problem.

As to the means to be taken to secure the carrying out of some portion at any rate of the recommendations, the President, perhaps wisely, was silent. He did, however, give a hint that in his view it might be desirable to set up a special authority to control the working out of the scheme in detail and co-ordinate the finance. At the end of his Address he asked the question "Can any substantial progress be made without the setting up of a simpler, " more direct, *ad hoc* organisation, immune from the vexatious " delays that must always attach to the deliberations of heterogeneous groups of local bodies? " He evidently expected the

answer "No," though he did not give this direct reply himself. In his concluding paragraph, however, he referred to the opportunities which might be afforded to chartered surveyors, presumably both in their professional capacity and as citizens, of helping forward that reform so greatly to be desired.

The announcement had recently been made of Sir Charles's impending retirement. While the opportunity for leisure might be some satisfaction to him, especially after a busy life spent in the public service, it was a matter for some regret on the part of his brother surveyors that he could not postpone his retirement for, say, thirty years to enable him to see the completion of his great scheme.

He seconded the vote of thanks for an exceptionally interesting Address.

The motion was then put and carried by acclamation.

The PRESIDENT, in reply, said that it had given him great pleasure to hear the very sapient remarks made by Mr. Cobb with regard to the position of the countryman in relation to those London schemes. It was just what he would have expected from him. It showed an appreciation of the extraordinary responsibility which the countryman had for what was happening in the town. So long as the countryman could walk about his estates with his gun and his fishing rod, well and good, but as soon as someone came and told him that his property was ripe for development, he generally yielded, and the result was another 100,000 population added to the already overloaded streets of London. If the countryman would only keep his holding as agricultural land—and he wished that in many cases he could be compelled to do so, for that was a most important side of town planning—then a great many problems of London would be disentangled. He could conceive of no more useful or indispensable function for the town planner than to obtain powers to prevent what was called the development of good agricultural land for bad suburban streets. Therefore by all means let them hope and pray that Mr. Cobb would continue to walk about his estate, garbed as they knew him and looking as handsome as they all appreciated him to be, and that when one of his brother surveyors came along and asked for that land to be cut up for building purposes he would harden his heart and say that nothing would induce him to allow the countryside to be so desecrated. In that way half the problems of London in that respect would disappear,

but whether all the chartered surveyors were prepared to accept that self-denying ordinance he was not sure. That might be the subject for another meeting. He thanked them most sincerely for the great indulgence they had shown him in listening to his Address.

The meeting then terminated.

PAPER NO. 586.

THE IMPROVEMENT AND DEVELOPMENT OF A SEASIDE RESORT.

By David Edwards, M.Inst.C.E., P.P.Inst.M.& Cy.E.
(Chartered Surveyor).

*Paper to be discussed at an Ordinary General Meeting of
the Chartered Surveyors' Institution, on Monday,
5th December, 1938.*

The subject I have chosen deals with several aspects of town planning, appertaining more particularly to the improvement and development of seaside resorts. Such resorts have their own problems, many of which are quite unlike those of inland towns, and require consideration and special technique for their successful solution.

Should I appear to allude too frequently to my personal experience at Brighton, I must claim your indulgence, but during the last few years the borough has made such rapid progress in all aspects of seaside planning, that I venture to believe some account of our activities may perhaps prove interesting and instructive.

PLANNING A SEASIDE RESORT.

The character and function of a seaside resort differs, and differs very naturally, from that of the average inland town. In the instance of the industrial town one may say that the background and the daily humdrum round of the average citizen's home life is work. Therefore in an inland

town, one expects and finds an atmosphere of homeliness and neighbourliness, with little stress on the factors of leisure and amusement.

In a seaside resort this homeliness and neighbourliness is necessarily lacking. The inhabitants are mainly strangers one to the other, and meet on a more conventional footing. The resort is organised for pleasure and leisure rather than work, and its social and geographical environment are largely coloured by this attitude.

It will thus be realised that the planning of a seaside resort differs very considerably from the planning of an inland town, being very much of a specialist's job, and requiring considerable study and experience.

During recent years, among a large section of the middle classes, there has grown up the desire to spend the declining years of life in the pleasant and healthy atmosphere of a seaside resort. As this ambition appears to be very much on the increase, it follows that the retired element in our popular resorts is a considerable one. In the character of the planning and organisation of an average resort one would therefore expect a marked recognition of this fact. Yet in the majority of seaside towns there is very little planning that can be considered as expressly for the benefit of this adult element. If one examines the expenditure of the majority of seaside resorts, it will be found that almost the whole outlay has been devoted to the interests of adolescents.

Everything, of course, depends upon the character of the resort, whether it is mainly residential or pleasure-providing for the day visitor. Consider the average resort in which the permanent retired element is well represented, and occupies a considerable proportion of the economic rate-revenue producing property. For this stable population of retired persons to which I have referred I think some special considerations should be shown and some concessions made. Such citizens are a valuable asset, and seaside municipalities should encourage the building

of small house property, properly designed and planned, expressly for their accommodation.

Though small property of an assessable value of under about £30 per annum are not generally paying to the rates beyond the value of the essential services they receive in return, I nevertheless feel that some special consideration is more than overdue to this class of resident.

Nearly all the resorts I have known have suffered from a deficiency of shelter accommodation. Light shelters are not expensive to erect, and simplicity can be combined with a pleasing design. Their provision adds very materially to the comfort of a seaside holiday.

In the matter of making amenities self-supporting I might mention the case of our pitch and putt golf course at Brighton—an area of some 18 acres abutting on the Marine Drive. The mown fairways and sand bunkers provide as pleasing a feature as a laid-out park, with the great advantage of facilities for open-air recreation. Its popularity is reflected by the income of £2,350 being obtained in the first year with a capital outlay of £900, leaving a balance of £1,450, out of which a pavilion and tea-room have been provided this year.

Camping is at present very much the vogue. I consider that camping should be allowed only on properly approved sites, where satisfactory drainage, water supply, lighting, postal services, and proper means of access are available.

For both the sanitary and social reputation of a resort I consider that camps should be strictly regulated and frequently inspected, and that all camping sites should be duly licensed or registered.

The following is a description of the camping site recently opened at Brighton, being part of a scheme for the provision of games arenas:—

The valley consists of steep sides on the east and west. Between these two sides the valley winds generally in a north and south direction to the sea, the north end forming a rounded head, on the top of which stands the Race Hill.

The proposed lay-out of the valley as a health and recreational centre may be considered under two headings:

- (1) Municipal camping ground ;
- (2) The provision of games arenas.

With regard to (1). An area of approximately 18 acres will be utilised for camping purposes. Main drainage, water supply, electric lighting, postal arrangements (including telephone), lavatory accommodation, &c., have been provided. The existing farm buildings, comprising New House Farm, have been converted to contain wash-basins, shower-baths and water-closets for both sexes. The old barn has been restored, and is utilised as a community centre for camp meetings. The old farmhouse has been converted into warden's living accommodation, and a small shop and office provided.

The work, including improvements to approach roads, has been carried out at a cost of approximately £2,000.

During the season 1938 only 9 of the 18 acres have been used for camping purposes, and the project has met with considerable success. It is intended during the coming winter to lay out the additional 9 acres and provide extra accommodation at an approximate cost of £1,000.

With regard to the provision of games arenas, owing to the natural configuration of the valley it is possible by excavation and filling to provide two magnificent amphitheatres for recreational purposes—*i.e.*, football pitches and cricket pitches, and possibly running tracks—and it is anticipated that some contribution from the National Fitness Council will be obtained to assist in the laying out of these.

When these two areas are developed, it will mean that the existing roadway up the valley will be closed, and it is intended immediately to construct a new access from Wilson Avenue, which will eventually serve as a main access road to the two games arenas, leaving the existing access road to serve only the camping ground.

The following is an approximate estimate of cost for (2):

<i>Present Tip.</i>	£
Completion of tipping, soiling and seeding, and sewer extension	8,750
<i>New Games Area.</i>	
Excavation and filling, soiling and seeding, and sewer extension	21,500
Road access	2,250
	£32,500

These figures do not include for the provision of pavilions and equipment. It is felt that it will be advisable to leave consideration of these until the lay-out is nearer completion and the requirements less indefinite.

BRIGHTON'S TOWN PLANNING.

Brighton is particularly fortunate in that approximately 10,000 acres of its outer area is under planning control; and negotiations with landowners and developers are proceeding favourably, so that we may expect little serious opposition when the public inquiry is held on the 13th December into one of the schemes covering 5,841 acres.

We shall thus be in the very fortunate position of being able to safeguard and guarantee the continuance for all time of the amenities provided by town planning.

RE-PLANNING THE TOWN.

In the re-planning of built-up areas, it should be our aim and principle to preserve and even accentuate the unique character which has in the past made our town famous. The patronage of the Prince Regent founded the fortunes of Brighton in the early days of last century, and the town has never lost that special social savour which such patronage bestows. Its proximity to London has made it the venue of the rank and fashion of the Metropolis, and this character, which has grown like a legend, we have been careful to safeguard and augment.

Accordingly all our re-planning has been, and will be, carried out in harmony with the spirit and traditions of the town. Our endeavour will be to enhance its charm and preserve its historic features, whilst adding every modern attraction and amenity for the comfort of its visitors.

I think every surveyor will agree with me that it is a far simpler and easier task to plan *de novo* than to undertake the re-planning and development of an area that has already been partially developed.

The re-planning of an old built-up area is a task demanding considerable skill and experience and requiring for its complete success a good deal of what I may term "the architectural sense of fitness." All over the country to-day there is taking place, I regret to say, an orgy of indiscriminate demolition that threatens to leave the older parts of our towns and cities denuded of every vestige of character, quaintness and architectural interest.

In the matter of the control of elevations the Brighton Corporation is exceptionally fortunate, as under the provisions of a local Act we have greater powers than the majority of towns enjoy.

The censoring of the elevations of new buildings is a matter of particular importance. The Town Planning Act provides to some extent for this it is true, but the Brighton Corporation, under the provisions of the local Act I mentioned, have greater powers. For example, features of these special provisions are:—

"The grounds on which the Corporation may under the section object to any particulars submitted to them are that the buildings or materials to which the particulars relate—

- (1) would, having regard to the general character of the existing buildings in the street or the buildings proposed to be erected in the street, seriously disfigure or deteriorate the character of the street, or
- (2) would hinder the improvement of the character of the street in any case where it is desirable that the character of the street should be improved, or

- (3) would injuriously affect the amenities of the borough."

It will be evident from these clauses that we in Brighton have very effective powers of control, both in respect of planning and exterior design ; though, I should add, the Corporation has so far never found it necessary to exercise these powers to their limit.

In the interests of town planning, from the national point of view, I am hoping that ere long these special powers which we enjoy will be at the disposal of every town in the kingdom.

Important street improvements have been carried out under the provisions of the Road Improvements Act, 1925, the Public Works Facilities Act, and the Public Health Act. A great deal of town planning can be effected under these statutes, particularly with regard to roads by defining building lines and improvement lines, and by compulsory acquisition. The local authority has power to purchase, if they so desire, more property than is required for road widening. They are empowered to purchase the back property which will enable suitable blocks of new buildings appropriate to the position to be built on the improvement line.

On reconstruction large four- and five-storey buildings of the multiple shop type, insurance offices, banks, are encouraged, with the result that the assessable value is considerably increased for rateable purposes. One might say generally that in a progressive town it is possible to carry out a scheme of road widening and improvement without a charge upon the rates.

In the case of the improvement and widening of the Western Road such was practically the case, and it would be interesting to give a brief account of this scheme, together with that of West Street, which are typical examples.

Western Road, A.277.—When it was originally laid out in the early part of the nineteenth century the road was

residential and the buildings were between 60 and 70 ft. apart, but as it gradually became transformed into a shopping centre, shop fronts were built on the forecourts of these old houses and the over-all width of the street was reduced to 32 ft.

Plans were prepared for a widening to 60 ft., and an improvement throughout was begun in 1926 and is now complete. The new carriageway is 35 ft. wide, with footpaths on each side of 12 ft. 6 in.

The Corporation followed the procedure of purchasing the property required on the north side of the road for the complete widening. They have also purchased sufficient back property to enable them to give building depths of 100 to 150 ft. behind the new improvement line. Most of the property was acquired by negotiation, although some compulsory purchase orders were required. The surplus land has been disposed of on comparatively short leases. In some cases individual firms have built their own buildings thereon ; in others the buildings were designed and constructed by the Corporation.

The extent of this widening in the most important shopping centre in the town has transformed a crowded and inconvenient street into an ample thoroughfare.

The total length of the widening is 517 yds. The cost of the road works was £22,770, and the cost of the acquisition of properties was approximately £950,000, of which £220,000 was the value of the land thrown into the highway.

West Street A.2010.—This road is the southward continuation of Queen's Road, which leads from the station direct to the sea front.

Previous to the recent widening, the minimum width between buildings was only 28 ft., and the carriageway at its narrowest point was only 14 ft. wide. The Corporation decided to widen the road to 55 ft. at the north and 70 ft. at the south, with a carriageway varying from 35 ft. to 40 ft. The whole width required was taken from the west side, and, with a few exceptions, the Corporation purchased the

necessary property, together with sufficient back property to enable redevelopment to take place economically to the new frontage line.

The total length of the widening is 350 yds. The cost of the road works was £12,600, and the cost of the acquisition of property was £235,000, of which £45,000 was the value of the land added to the highway.

THE RESTRICTION OF RIBBON DEVELOPMENT ACT AND ITS CONSEQUENCES.

Although there has been much criticism of the recent Restriction of Ribbon Development Act on the score of its inadequacy, I regard the measure as a real achievement in the field of town planning. I am quite willing to admit, however, that the provisions do not go far enough, and also that, in powers of control, authorities have too little scope for constructive action. Notwithstanding, I feel that the thin end of the wedge has at last been driven, and it should be possible to carry through any future legislation in this direction without much opposition. I have always noticed that the British public dislike strongly any novelty in the way of a new idea or piece of legislation that breaks fresh ground. But once you have got them to accept a minor measure you may, as soon as this is digested, give them larger and larger doses and hardly raise a protest. . . . Witness the gradual and increasing incubus of the income tax ; the various social service Acts, which would have been regarded as revolutionary in the days before the War ; and the tremendous increase in public spending. The exigencies of war accustomed the public mind to the idea of colossal expenditure, and, as I have just remarked, the British public now accepts any burden put upon it almost without a murmur, if the demand justifies it.

With regard to future ribbon development legislation and town planning Acts, we have laid a good foundation, and in the matter of ribbon development I believe the time is almost ripe for the drafting of whatever bold measures we may conceive as necessary towards the realisa-

tion of truly model road schemes. We must not only control the practical traffic and road constructional problems, but also the road's immediate landscape setting, which I may term the "roadscape." Without such control, our best planning work is liable to be spoiled by private commercialisation of the setting.

THE LONDON, BRIGHTON AND SOUTH COAST ROADS.

Brighton is situated some fifty miles from the Metropolis, and the roads carrying the traffic between these two points are called upon to bear what is probably, numerically, the heaviest traffic in the country. I do not, of course, refer to heavy-load commercial traffic such as one gets around the industrial towns of the north, but to car and bus traffic. Over this London-Brighton stretch of road, space rather than load is our problem ; and as the popularity of Brighton continues to grow, so this already difficult problem will become more acute.

I would like to see a complete re-planning of the London-to-the-South-Coast roads—that is, the roads serving Brighton and her sister resorts. Better still, I would like to see an entirely new and amply wide road, planned with Roman directness, to link London with the coast at Brighton.

This new direct road or roads could be reserved for fast traffic, and the older roads for slow and local traffic.

In the planning of this fast traffic arterial road between London and the coast, I think it would be advantageous to split this road into two or probably more branches at the point where London was approached. This would allow the traffic to radiate fan-wise and distribute itself around the periphery of the city suburbs approximately in the directions of the various destinations required. This would certainly prove a more convenient arrangement than the bringing of the whole undivided stream of traffic right into the city's outskirts before allowing it to split up into its divers destinations.

As travelling by road to-day is so general, it behoves road designers to give a little more thought to the æsthetic side of planning. Though traffic efficiency is, and must be, the first and foremost desideratum, the impression made upon the traveller as he approaches a town is a matter of considerable importance.

A traveller's first impression of a town is usually almost unconsciously formed as he passes through the town's outer suburbs: and this first impression largely remains to colour later mature impressions. Therefore it is incumbent upon municipal authorities, if they wish their towns to be well spoken of, to see that the points of entry to the towns by road are re-planned and tidied up in a manner that does the town credit.

To re-plan an entry, in the case of an old town, is too often a quite impracticable proposition. Still, much can be done by judicious demolition and the masking of ugly prospects.

The roads from London to the popular south coast resorts, such as A.127 (Southend), A.23 (Brighton) and A.2 (Margate), are greatly in need of widening or even entire re-planning. The congestion that is becoming the commonplace of the summer months has almost reached the limit of tolerance. Personally I would advocate the creation of a brand new road, or roads, planned with a generous margin for all possible future requirements. It would not be necessary to build such a road to its whole prospective width right away, but the unused width could be developed as a green and pleasant margin. The necessary land could be acquired without delay, and the road planned to run as direct as possible across open virgin country. Through this reserved stretch of country a serviceable width of the new road site would be laid down, to be added to, lane by lane, as future developments required. I am convinced that this would be by far the cheapest way to plan a new London-to-coast road—vastly cheaper, that is, than attempting to widen the present ribbon-ridden roads to the coast.

COAST EROSION.

A responsibility devolving upon a seaside authority which does not pertain in the case of an inland town is the protection of the shore against erosion by the sea.

In the case of Brighton this responsibility has been exceptionally heavy. The high chalk cliffs, being of soft material, are readily disintegrated and undermined by the sea.

The financial aspect of this problem can be a very serious item for a town. In Brighton we have, within the last few years, carried out extensive sea defence works. Taking advantage of particular conditions, we have made a virtue of our necessity and created works of beauty as well as utility, and provided the town with a coastal amenity which will be for the enjoyment of residents and visitors for generations to come.

Our sea defence schemes have cost £500,000. Incidentally to the essential works of sea defence an Undercliff Walk, some four miles in extent, has resulted. The hundred-foot high cliffs are now safeguarded by a heavy sea wall, and their upper faces have been sheared back, thus removing danger of landslide and cliff falls.

The finished work is one I think of which we may well be proud. The extensive Undercliff Walk provides a most pleasant promenade, a veritable sun-trap in winter. Sheltered from north and east winds, it proves a great attraction for our visitors.

I should perhaps apologise for having dwelt so exclusively upon our progress at Brighton. But as the resort most favoured by visitors from the Metropolis, the town is naturally expected to set an example in municipal progress.

In order to assist you to visualise some of the points raised in my paper, I expect to be in a position on December 5th to show you some lantern slides. These slides, while referring to Brighton in particular, will also, I hope, have their interest as examples of the application of general principles not limited by local peculiarities.